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SMOKING CESSATION/PREVENTION IN THE AIR FORCE: HOW ADEQUATE

A Thesis Defense

by

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## Abstract

It is widely held that tobacco is a cause of cancer and other debilitating illnesses. Public policy restricting sales and uses of the product everywhere, even in tobacco growing regions of the country, underscores the seriousness of this belief. Recently, one of the major tobacco companies has come forth and admitted that tobacco is a health hazard. The purpose of this study is to determine if healthcare providers in the military adequately address tobacco related ailments and smoking cessation programs with their clients. This study focused on what happens at the primary point of contact between military healthcare providers and clients. A retrospective chart review of a random sample of charts and client interview was employed to compare providers' documented practice protocols with established guidelines set by the Department of Defense (DoD) for implementation of smoking cessation programs in the military. The study was conducted to determine how well military providers met the guidelines. An Intervention Plan Documentation checklist constructed by the researcher, and evaluated by a panel of two experts for content validity in smoking cessation practices was utilized. A pilot study was done to determine intercoder reliability. Descriptive statistics were utilized to determine whether health care providers in the military organization were promoting a tobacco free lifestyle and preventing smoking related health problems as evidenced by the documentation in client charts. Findings showed that military providers were having dialogue with their clients about smoking cessation. However, documentation of this intervention was not always complete. KW - Smoking, Cessation, Prevention, Air, Force, Military

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## I. INTRODUCTION

The purpose of this research thesis was to determine the amount and type of smoking cessation related health care services that were actually provided to clients seeking primary health care in Department of Defense (DoD) facilities. Public debate has long shifted from whether smoking is bad for health, to how much tobaccogenic illness costs our nation in human and material terms, as well as how much restriction should be placed on tobacco production and distribution. There is ample evidence of antismoking campaigns everywhere around the nation. Private businesses have joined in the crusade. Many organizations now limit areas in which customers and employees can smoke, and even outdoor smoking is restricted in some areas. Some organizations have totally banned smoking on their premises. Moreover, Liggett, one of the nations major cigarette makers, acknowledged that tobacco is addictive and causes cancer (Broder, 1997).

On the surface, at least, it appears that the general public is in agreement that smoking is harmful to good health. The point of contention, though, is the right of individuals to purchase and consume products that are legal, without fear of harassment, recriminations or undue restrictions. In the military, whose main mission is the defense of the country, the emphasis has always been on optimal physical fitness and readiness to respond to national and international threats to peace and security of the nation. Because research has directly linked tobacco use to poor physical endurance, shortened life span, and multiple health risks that

include chronic diseases and general malaise, one wonders if the military is doing all that it can do to protect its population.

The federal government, at least on paper, has taken a strong stand against the tobacco industry. Several states have actually taken tobacco firms to court to recoup what they claim, were costs of providing health care for diseases caused or exacerbated by smoking. Since the military prides itself on optimum physical fitness of its members, it is essential to examine what health care providers actually do in this regard to limit smoking behavior as well as associated diseases among servicemen and women and their dependents.

### Background

Clinical Practice Guidelines cite tobacco use as the chief avoidable cause of death or illness in our society (Smoking Cessation Guideline Panel, 1996). Research has successfully established a link between tobacco use, and increased risk of cardiovascular disease, and chronic lung disease. Cigarette smoking has also been implicated as a contributing factor in low birth weight of newborns (Agency for Health Care Policy and Research [AHCPR], 1995). Many other illnesses and life threatening conditions have also been successfully linked with tobacco smoking. Research has shown that tobacco products are the leading source of preventable causes of death in the United States, accounting for hundreds of deaths and approximately 30 percent of all cancer deaths each year (American Cancer Society [ACS], 1995).

The evidence is overwhelming that nicotine products have an addictive property that creates dependence (Benowitz, 1991). This fact, on its own merit,

should be sufficient reason for concerned citizens to organize and commit themselves to preventing tobacco use, especially among young people. Because tobacco use was one of the most serious forms of avoidable health risk, and because every segment of society especially the young women and minorities bear the brunt of the health consequences, the significance of this issue to public health, cannot be overemphasized.

The Surgeon General's report on smoking estimated average life-time medical costs for a smoker exceeded those of non-smokers by more than six thousand dollars per year (AHCPR, 1992). Annual costs of smoking to the nation including lost productivity and disability were a staggering 65 billion dollars in 1985 (Mackenzie, Bartecchi, & Schrier 1991). By the DoD's account, incremental costs estimates due to heavy smoking for active military personnel fit for duty was \$2,800,000. This accounted for 1.4% of military physician costs.. Inevitably, this avoidable cost for medical care, was passed on to the taxpaying public (World Wide Survey, [WWS]1992).

Tobacco related illnesses had been investigated since the 1950s. By the 1980s it was no longer a matter of if, but how much damage cigarette smoking does to people's health. One definite positive outcome of the raging debate was the increase in public awareness of the dangers of smoking and the willingness of the tobacco industry to comply with certain limits placed on production and distribution of its products. While the tobacco industry continued to deny evidence from research of tobacco hazards to health, many federal and state agencies were taking the initiative to regulate smoking in their facilities.

The DoD conducts periodic world wide health surveys of active duty military personnel from all four branches of service, (Army, Navy, Air Force, and Marines). Their findings have consistently identified risky behaviors considered detrimental to military readiness and efficiency. Several of these surveys clearly revealed that military personnel, on average, use more tobacco than the general civilian population, and that certain stress conditions unique to military assignments and lifestyles are contributing factors (WWS,1992, 1995). What these studies do not address, however, is what the DoD is currently doing, or is prepared to do, to stem the tide of tobacco related illness in the Department.

During the 1980s DoD set directives which addressed health promotion. The goals of these directives included: improving military readiness, promoting healthy life styles, maximizing military efficiency and enhancing quality of life. However, the directives lacked specific guidelines for implementation. If these goals were going to be achieved, emphasis should be focused on those professionals responsible for the health care maintenance needs of the military and their dependents.

#### Statement of the Problem

This study supports the assumption that primary care providers, such as family nurse practitioners, physician assistants, and family physicians, are in a unique situation to play critical roles of identifying and providing intervention for those active duty or retired personnel or their dependents who were at risk. By virtue of their unique relationships with patients, these providers are in a position to influence their clients' health habits through counseling and education.



Therefore the purpose of this study was to determine whether or not tobacco cessation issues were addressed, and interventions or follow up by the health care provider completed. More specifically, the following research questions were addressed:

1. What is the role of military health care providers in smoking cessation intervention?
2. What are the clients' responses to smoking cessation intervention?
3. Is there a difference among clinics in their responses to smoking cessation?

Research had established that tobacco does contribute to incidence of cancer in humans, shortens life span of users, and impairs health, thereby reducing human ability to perform at the highest potentials. There was a significant public awareness program designed to warn and educate people about the dangers of smoking. The military, whose duty it was to defend the nation, recognized the importance of optimal physical fitness of its members and participated in the general public awareness campaign for smoking cessation. It had integrated the six main Healthy People 2000 (Public Health Service [PHS], 1995) objectives for tobacco control.

The objectives included prevention of tobacco use, treatment of nicotine addiction, protecting non-smokers from environmental tobacco smoke exposure, limiting the effect of tobacco advertising and promotion on

young people, increasing the price of tobacco products and regulating production and distribution of tobacco products (p. 604)

Despite overall efforts of the U.S. Department of Health and Human Services, and the Department of Defense in particular, the published report indicates that rates of smoking for military personnel in the year 1995 were well above the 20% target set by the Healthy People 2000 Objectives for 1995. A study of active duty personnel showed also that only 25.3% believed that tobacco policies were effective. Reasons most often cited for this belief were:

Policies were not consistently enforced; guidelines were not clear; health promotion programs were relegated to the background; and health care providers were ill equipped to do the job during one on one contacts with their patients (Collins, & Curtis, 1993, p. 386).

#### Framework

This study utilized the framework of the national guidelines for smoking prevention and smoking cessation. It is through these guidelines that medical providers must operate to ensure all clients have opportunity to benefit from both standards and/or screening guidelines. Before intervention could begin, the providers must have assessed the individual's smoking status. Fiore, (1991), suggested that providers make the patient's smoking status the "new vital sign". He further surmised that adding the smoking status as a new vital sign would significantly increase the likelihood for intervention in this important area. The (AHCPR, 1992) position has been that through clinical smoking cessation intervention, health care providers have their greatest opportunity to improve the

current and future health of all Americans. It was important, therefore, that health care providers recognize this responsibility, and play a much more active role in the fight against smoking. The guidelines for smoking cessation as set forth by (PHS, 1994), have also been adopted by the military, including the Air Force, and are used as standards of care for all patients (AFI 40-102, 1994).

Six major recommendations by the Smoking Cessation Guidelines Panel (PHS, 1996) suggested that in all clinical encounters with clients:

1. Healthcare systems should make institutional changes that result in the systematic identification of, and intervention with, all tobacco users at every visit.
2. Clinicians should ask and record the tobacco-use status of every patient.
3. Every person who smoked should be offered smoking cessation treatment at every office visit.
4. Brief cessation treatments (3 min.) are effective, and at least a minimal intervention should be provided to every patient who uses tobacco.
5. The more intense the treatment the more effective it is in producing long-term abstinence from tobacco.
6. Nicotine replacement therapy (nicotine patches or gum), clinician delivered social support, and skills training are the three most effective components of smoking cessation treatment (p. 22).

In addition, the national position for smoking cessation stated:

Clinicians should provide smoking cessation counseling, treatment, and referral to patients who smoked. This was endorsed by leading health authorities, including, American Academy of Family Physicians, American Cancer Society, American College of Obstetricians and Gynecologists, American College of Physicians, Canadian Task Force on the Periodic Health Examination, National Heart, Lung and Blood Institute, National Cancer Institute, National Institute of Dental Research, and U.S. Preventive Services Task Force (PHS, 1994, p. 329).

Because of this position, it was imperative that military healthcare providers have definite plans for implementing policies and recommendations advanced by the authorities in health matters.

The DoD World Wide Survey (1995), reported that, smoking in the general population was declining. However, the rates of smoking in the total DoD and in each of the four services were still well above the 20% target set for military personnel by Healthy People 2000 (PHS, 1995). Conceptually therefore, each contact with a health care seeker in the military provides a crucial opportunity to reduce the smoking impact on health. The provider became the role model, advocate, problem solver and facilitator (King, 1994). The assumptions, of course, were that the teaching and learning process took place in a self directed, health motivated and professionally non-coercive environment. For a desired outcome, motivational factors for the client to learn and the provider to teach, must be fully understood by both, and limitations of such sessions recognized. The health care provider must have taken into account the client's

value systems, expectations, personal motivations, self esteem, quality of life, self confidence, and constraints of personal or community resources (Krause, 1995).

Based on the old adage that an ounce of prevention is better than a pound of cure, and based on the understanding that health promotion should be the cornerstone of primary care, this thesis painstakingly emphasizes and re-emphasizes the importance of quality patient healthcare provider interactions at the clinical level. This should reflect a standard of practice for all practitioners. For example, guidelines set by the National Organization for Nurse Practitioner Faculties in 1990 identified five domains (Mirr & Snyder, 1995):

1. Teaching/coaching role
2. The healing role
3. Managing clients health/illness
4. Monitoring and ensuring quality of life and
5. Organizational and role competencies.

Highlighting these roles and encouraging military providers to adopt them was one of the objectives of this thesis. Findings from this study could be used to guide providers to adopt strategies to educate patients on smoking cessation.

#### Assumptions/Limitations

In the study it was assumed that the adverse health effects of tobacco were well publicized and understood by the general public. Other assumptions included, that while many people were aware of the inherent dangers associated with smoking, they continued to use tobacco. For the members of the Armed Forces it was believed that health care providers such as the nurse practitioners,

could play vital roles as educators within the teaching-learning process for disease prevention and health promotion. The ultimate goal was reduced tobacco use for military active duty personnel and their dependents as outlined in Healthy People 2000 (PHS, 1995) objectives. It was expected that a review of the medical records of clients seen by healthcare personnel of military hospitals would reveal the practices and health promotional counseling provided to clients about smoking, when they were seen in clinics. This researcher hoped to use findings from the review to determine the effectiveness or adequacy of health promotional efforts of military care providers and make appropriate recommendations.

Several limitations of the study require consideration. Time required to conduct the study was limited. The researcher had to work within the class deadlines and may not have been able to thoroughly pursue time consuming leads or data that could enrich the study. Resources to carry out the research was also a limiting factor. Literature searches, reproduction of materials, transportation, mailing of materials, and telephone use were some of the budgetary items that could limit the scope and quality of studies when performed under constraints of a tight and fixed income. Another limitation was that the data was gathered from written documents of the provider, which might not have been complete.

Survey data utilized for the study came from one military medical center which might not have adequately represented practices in the other hospitals. Because of the specialization of military units, an accurate account of smoking habits required extensive resources. For example smoking habits of sailors at sea might significantly differ from Marine Guards at the White House. Therefore,

unless an extensive study of a variety of facilities was conducted, only a preliminary picture of the situation would be obtained.

On the public policy front, it was not clear what the impact of impending antismoking bills in Congress would have on tobacco subsidies at the commissaries, or what the state sponsored lawsuits against cigarette manufactures would mean to the military or their dependents. Another limitation stems from the suspicion that our society was biased against any pressures that do not support liberty or freedom of choice. In other words, whereas people might have understood health promotional messages on smoking, they might not have given candid answers, thereby limiting the validity of the findings. Bias could therefore occur due to the inconsistencies in the health promotion programs, the attitudes of advocating health care providers against tobacco use, and the voluntary resistance or resentment of those who in their minds believe that their rights were being violated.

It was also possible that all healthcare providers were not equally dedicated or trained to counsel clients on smoking issues. Levels of education and training on health issues also vary significantly. Because some healthcare providers, including nurses and physicians, smoke in public, their moral authority to counsel or educate patients about the ills of smoking continues to erode.

In summary this research thesis assumed that tobacco smoking is unhealthy and should be of special concern in the military where physical health and fitness are critical for adequate work performance. Researchers have assumed that we have adequately prepared personnel in the military to provide education

on this subject, however, a possible lack of an adequate knowledge base on the part of the providers to actually make a difference in smoking prevention or cessation might exist.



## II. REVIEW OF LITERATURE

Judging from the frequency of public debates on tobacco related topics, the volumes of available printed information on the health hazards of smoking, public policy declarations and limitations on ads and marketing of tobacco products, and of course, the many law suits filed or won against the tobacco industry, one would assume that health risks of tobacco products are well publicized. This should indeed be welcomed news as the first crucial step toward educating the public and subsequently reducing the use of tobacco which is considered the single largest cause of preventable illness and death to man (Conway, Hurtado, & Woodruff, 1993).

Health care professionals, at all levels and in all organizations have a duty to be at the forefront of the crusade against the ills of smoking. Since promotion of health through healthy lifestyles is one of the primary functions of health care providers, they have additional tasks of providing education and counseling to facilitate reduced use, or risk free environments for those who do not smoke.

This chapter reviews published information on the efforts of health care providers in military institutions to educate their clients on the hazard of smoking on a one on one basis. In this chapter the researcher focuses on the available information on the implementation of preventive care, in other words, putting prevention into practice. It reviews predictors of provider's smoking cessation advice. A specific tobacco use and prevention program in the U.S. Navy was also reviewed. Other articles reviewed included: Tips for Smoking Cessation (Miller,1993); Smoking Cessation: Information for Specialists (Smoking

Cessation Guideline Panel, 1996); and The New Vital Sign: Assessing and Documenting Smoking Status (Fiore, 1991).

### Implementing Preventive Care

According to excerpts from the "*Clinician's Handbook of Preventive Services: Put Prevention into Practice*" manual, published by PHS (1994), the delivery of preventive care, even for services on which all authorities agree, is far from satisfactory. Similar research contributions note that delivery rates for many preventive services are low in the U.S, often falling below 50%. Factors contributing to this shortcoming, the article suggests, are within the control of the delivery of clinical preventive services. The manual seem convinced that in spite of all or any obstacles, real or imagined, there is much that clinicians can do to help ensure that their patients receive the preventive care they need. A two step process was recommended toward meeting this goal.

As a first step, "every clinician or practitioner needs to create a clear written protocol of preventive services to be delivered to patients" (PHS, 1994 p. 332). The problem with this approach, though, is in the numerous resource constraints placed on the practitioner, and the authority to do them. After the protocol of preventive care delivery is decided, the next step would be to implement it efficiently and consistently.

Rather than simply adopt the recommendations of their organization or major authorities, clinicians/practitioners are being encouraged to develop a protocol of preventive care that meets the unique needs of their practice and patients. With the enormous cost associated in procuring and maintaining quality

data pertinent to each individual case at all times, this approach may neither be practical nor feasible. Although a particular type of preventive care may be desirable, the staff and other resources may not be available for its implementation.

The most important lesson from the review seems to be the emphasis on utilizing every opportunity a practitioner has to deliver preventive services. In other words, it is important to use every patient encounter as an opportunity for preventive care. This is a very cogent point when one realizes that the only trusted source of healthcare information for some segments of the population is during their encounter with the health care system. It is important to recognize the emphasis on preventive care and basic agreement among various authorities that, paraphrasing the famous adage, "an ounce of prevention is better than a pound of cure".

#### Cigarette Maker Concedes Smoking Can Cause Cancer

According to a Washington Times (Broder 1997) report, one of the nation's major cigarette makers acknowledged that tobacco was addictive and caused cancer. The company also reportedly admitted that for decades, the industry had consciously marketed their products to children as young as 14 years of age. Such public admission by one of the five leading cigarette makers has no doubt bolstered the anti smoking campaign, and the arguments that the tobacco industry has willfully and maliciously targeted and marketed harmful products to minors while denying the fact and sitting on the evidence.

The report by Broder (1997), also claimed that the Liggett company, in exchange for release from certain liabilities related to costs for treating smoker health problems, has agreed to turn over all pertinent internal documents that the suing attorneys general from litigant states need to prove their case against rival tobacco companies. The implication of this news report, if totally accurate, would mean the day of reckoning for the tobacco industry has finally arrived. What this and other similar reports may mean therefore, is that finally a legal basis has been established to successfully challenge or control production and distribution of substances believed to be addictive and cancer causing, to the general public and more importantly, to minors.

#### Tobacco Price Increase Aids Prevention Focus

The focus of this article was on military smoking prevention efforts. The report made it clear that the issue was no longer how much damage, in human and material terms, cigarette smoking causes the DoD but how can the damage be stopped or curtailed. It was the conviction of the author that the DoD was sending mixed messages in its tobacco policies. The author argued that by DoD's own estimate, smoking-related health care costs were about \$530 million and loss of productivity about \$345 million a year while its subsidizing of commissary tobacco sales continued to increase (Late, 1997). The conclusion was that any meaningful war against the tobacco industry must include a price increase to help focus on prevention of its usage in the first place. As for the military prevention efforts, increasing the price of cigarettes was the first step. Other highlights of the

report included establishing goals and smoking cessation programs tailored to suit specific need and working environments of different branches of the military.

#### Tobacco Use Prevention Cessation Program in the U.S. Navy

In the study by Conway et al. (1993) a representative sample of 406 U.S. Navy commands, including all medical treatment facilities, in 1990 revealed that the vast majority of Navy commands (86%) provided some type of tobacco cessation education materials or programs. Survey respondents estimated that approximately one third of those persons who attended such a program stopped their tobacco use; however, provider follow up appeared to be lacking. Adequate provider follow up could increase the number of smoking cessation clients. This study was conducted in part to evaluate the prevalence and adequacy of tobacco use prevention and cessation programs in the U.S. Navy. Findings and conclusions were that at the time of the study, about 44 percent of the Navy's force smoked compared with 29 percent of civilian adults. It also discovered that with regards to tobacco prevention/cessation programs, what the Navy was doing, was grossly inadequate. For example, Conway et al. noted that primary health care providers did not routinely screen patients for smoking. Of the providers who did screen, they spent an average of 5-10 minutes discussing tobacco related issues with no real plans or indications for follow-up. Factors such as providers needing more time with their patients, or non-professional staff needing to be trained to cover some grounds for the professionals in this regard, were not addressed in this study. However, findings in this study indicated that Navy commands should take a more active approach in preventing the use of tobacco

and conducting cessation programs as part of overall efforts to reduce rates of tobacco use among Navy personnel.

#### Physician Counseling for Smoking Cessation: Is the Glass Half Empty?

The impetus for the study by McIlvain, Susman, Davis, and Gilbert, (1995), seemed to be an urge to evaluate physicians' effectiveness in counseling their clients to quit or refrain from smoking, and to demand and expect better results. A sample study of 410 smokers were identified from a previous study, and contacted one year later to determine if they had quit smoking. Seventy nine percent of the sample reported that their physician had counseled them. Only forty-two percent actually tried to quit smoking within the year. Counseling by physicians appeared to motivate some patients to quit smoking. It was the contention of researchers of this study, that the costs to society of smoking related disease and death are staggering. The study cited "the American Academy of Family Physicians and other professional health care groups, urging physicians to more aggressively counsel their patient who smoke" (p. 148). Authors of the study indicate that "initial research has shown that physician advice can have a positive effect on patients smoking status, and more recent investigations have focused on developing effective training programs for physicians and other primary health care providers and associates" (p, 149). The conclusion seemed to be that smoking cessation counseling by physicians or their associates can indeed make the difference between smoking cessation and life long addiction to smoking.

### Predictors of Physicians' Smoking Cessation Advice

In 1991, Frank, Winkleby, Altman, Rockhill, and Fortmann, studied 2,710 smokers to determine the percentage of patients who smoked that reported they had never been advised at a point of contact with the health care system, to smoke less or quit smoking completely. Forty-one percent stated they had never been advised to quit smoking by a physician. The estimate was that during the 1990s approximately three million tobacco related deaths occurred world wide annually. Throughout the 1980s many health organizations called on healthcare providers to stop this pandemic by counseling patients to stop smoking. Organizations such as the National Cancer Institute of the National Institute of Health (NIH), and the American Academy of Family Physicians, were identified as two of the many organizations that provided training and public education campaigns to reduce smoking.

In spite of these efforts, Frank et al. (1991) study concluded, that smoking cessation counseling to patients, particularly to adolescents and other young smokers, was inadequate. The suggestion was that smoking cessation counseling should be expanded to include even those without cigarette-related ailments. This suggestion was based on the assumption that improved smoking advice, over time, would make a significant impact in smoking cessation and result in a decrease in tobacco related diseases or deaths.

### Are Physicians Advising Smokers to Quit: The Patient's Perspective

In 1987 Anda, Remington, Sienko and Davis, showed consistencies with findings of characteristics of smokers who reported ever being advised to quit smoking. They conducted two random statewide surveys of 5,875 adults for physician involvement in smoking cessation. Forty-four percent reported ever being told to quit smoking by a physician.

This study found that whites, heavier and longer term smokers, those with more office visits, and those with a history of myocardial infarction or stroke, were more likely to receive smoking cessation advice. Oral contraceptive users were also more likely than others, to receive smoking cessation advice. The same study determined that younger physicians were more likely than were older physicians to probe patient's smoking status, to counsel patient's to quit, and to be aggressive in their counseling (p.1916).

How the finding translates into quality preventive care maintenance for patients is subject to debate; but, the study did highlight the importance of smoking cessation counseling and the apparent lack of uniformity by all primary care providers in counseling patients.

### Smoke Cessation Programs

Although the literature reviewed emphasized issues and policies related to smoking cessation programs, there has been limited data pertaining to advice on smoking cessation interventions. The Director of the Stanford Cardiac Rehabilitation program argued passionately that physician advice, more than any



public policy or legislation, can disproportionately help to overcome the enormous disease burden that is resulting from tobacco use (Miller, 1993).

Advice included a multi-component smoking cessation strategy that incorporated physician advice, behavioral techniques, self help materials, pharmacological therapies and follow up home care. The article also cited clinics and group settings as ideal locations for implementing smoking cessation programs.

### Cessation Programs in the Military

Critics contend that the military has not done enough to stem the tide of smoking related problems within its ranks. Jowers (1996) accused the government of providing cheap cigarettes which is an incentive to smoke. The article indicated that "smokers costed the Department of Defense (DoD) nearly one billion dollars in 1995, including \$584 million in medical costs and \$345 million for lost productivity because of smoke breaks" (p.11). The argument was that DoD could not be an honest health promoter on the one hand and a peddler of disease- causing merchandise on the other.

According to published reports, smoking cessation health promotion programs did not develop in the DoD until March of 1986. Previous directives were aimed at readiness, promotion of healthy lifestyles, maximizing military efficiency and enhanced quality of life ( White, 1991). Subsequent DoD directives continued to focus on controlling smoking areas (DoD Directive, 1986). The DoD unfortunately continues to subsidize the sale and distribution of a product known to be detrimental to health. Air Force Instruction 40-102 (June,

1994) considered this directive as providing information on health consequences of smoking and guidelines for health care providers.

There are inherent flaws in the guidelines and implementation of DoD directives on smoking cessation. For example, tobacco cessation programs may not be seriously enforced nor consistently implemented when DoDs cessation goals seem murky and enforcement signals are conflicting. Guidelines are generally lax and non-specific. There is no evidence or consistent efforts geared toward training healthcare providers in the uniformed services, to cater to the needs of addicted smokers in their ranks. "No program between military installations and between branches of services is the same" (Collins, 1993 p. 386).

#### Summary

The literature review overwhelmingly supports research findings that tobacco is a health hazard. Research has demonstrated that smoking also has its social consequences, with ever rising costs of health care services and losses in productivity. In the military, statistics have clearly demonstrated that tobacco use is greater than in the general population. The DoD appears to be encouraging a habit that limits the potentials of its personnel through subsidies of tobacco products, and limited directives on smoking cessation programs.

Because the literature review supports the notion that the DoD has not been at the forefront of war against smoking, "and sometimes sends mixed signals" (Late, 1997), changes in policies towards reducing or eliminating smoking related illnesses in the military community should be considered. More direct and aggressive smoking cessation counseling by military healthcare

providers should become standard practice in order to promote readiness, reduce healthcare costs and enhance overall security of our nation.

### III. METHODOLOGY

This research study examined clinical practices of military healthcare providers in screening and promoting a smoke free lifestyle; which was considered critical to the maintenance and mobilization of a combat ready armed force and a healthy military community. In this chapter the methodology for conducting the study is discussed, including; the research design, setting in which the study was conducted, the population investigated, sampling plan, ethical considerations, and the data collection instrument utilized. Procedures for data collection which included a retrospective review of clients' charts at the study site are also described.

#### Research Design

A retrospective research approach was utilized to examine past practices of military medical providers to determine how well they addressed smoking behavior. The researcher examined randomly selected records of the military community, (a legally binding document), to determine the type and extent of documentation of interventions by health care providers in areas of smoking prevention or cessation. Select patients were also interviewed via telephone call regarding the smoking cessation intervention they received during their clinic visit. Information obtained verbally from the patient was used to corroborate findings from the chart documentation.

#### Tool Development and Instrumentation

No measurement tool was found in the literature specific for studying this problem. Therefore, a tool was developed to evaluate various interactive

activities between a healthcare provider and a client seeking a healthcare service. Specifically the tool elicited information on whether or not smoking status was determined. It reflected information about provider interventions based on the smoking status of the client. It provided a format for answering such questions as: Was there any offer to assist with smoking cessation? Was there a follow up and in general, was provider/patient interaction in regards to smoking cessation adequate? The tool enabled the researcher to determine if there was a documented intervention concerning smoking behavior during the encounter and whether this intervention was appropriate and followed the established national guidelines recommended by (PHS, 1994). The tool measured type of provider intervention in regards to smoking cessation, patient age, gender, and clinic type (see Appendix A). A follow-up call based on script, (Appendix B), for consistency, was made to the sample group to determine the patient's perspective of the provider/patient interaction in regards to smoking cessation.

### Validity and Reliability

Validity of the tool reflects the degree to which the tool gathers accurate information on the variables studied. The tool created by the researcher was evaluated for content validity by two experts in smoking cessation. This group was comprised of members from the Uniformed Services University of Health Science who were primary care providers. Criteria for the selection of the experts included; experts must have clinical experience as a provider for at least three years in a patient care setting and have had clinical experience in tobacco cessation related activities. A numeric value reflecting the degree of relevance of

each item on the tool to the purpose of the study was calculated using a procedure proposed by Waltz and Bausell (Burns & Grove, 1993). A content validity index score of 0.92 was obtained. The score reflected supporting evidence for the tool.

Intra-rater reliability was calculated to determine consistency of recording of data by the investigator at two separate points in time two weeks apart. A 98 percent agreement was obtained. Inter-rater reliability of the instrument was examined with two nurse practitioner students. Using ten randomly selected charts, the two groups of recordings were compared by calculating the percent of recordings in agreement between the two students. The percent agreement for this tool was 95 percent. The results provided evidence to support use of the tool.

### Sampling

The target population was active duty and retired personnel and their beneficiaries. A random sample was drawn from the charts of active and retired military personnel and their dependents who frequent a major military medical center in the Northeastern U.S. A total of 500 charts were randomly selected from the OB-GYN, Medicine, and Primary Care clinics. For the purpose of the study the researcher purposely selected 100 charts of which half were smokers and half non-smokers. The sample size was expanded to obtain a large number of smokers. In fact, non-smokers outnumbered smokers by a large percentage based on this chart review. Of the 500 charts selected only 10% were smokers. This 10% was used to examine providers intervention with patients in regards to smoking

cessation. This sample size allowed for cross tabulations of the variables for which data was collected.

### Setting

The setting for this study was a 150 bed regional military medical center in the United States. The hospital was equipped to handle both war time and peace time health needs of its customers. The study focused primarily on three clinics. These clinics were selected for the study because they provided ideal situations/environments and clientele for the types of preventive and promotional health issues investigated in the study. They also provided primary, routine and screening care to clients on an extensive scale and regular basis.

Providers include physicians, nurse practitioners and physician assistants in the clinics. No distinction was made between these providers and the records of the care documented in the charts reviewed.

### Human Rights Protection

According to Burns and Grove (1993), self determination, privacy, anonymity and/or confidentiality, fair treatment, and protection from harm and discomfort should all be taken into account. Patient names or identification numbers were not included in the results or tabulation of findings. Institutional Review Board approval from the medical center, and the Uniformed Service University of Health Science were obtained (see Appendix C). The medical center was furnished with the final draft of the findings and recommendations resulting from this study.

### Data Analysis

The study investigated the following research questions:

1. What is the role of military health care providers in smoking cessation?
2. What are the clients' responses to smoking cessation interventions?
3. Is there a difference among clinics in their responses to smoking cessation?

Using the Statistical Package for the Social Sciences (SPSS), analysis of the data included obtaining frequencies of provider anti-smoking interventions and computing rates of occurrence of various intervention strategies. Based on the client's smoking status, the study examined the provider's intervention to determine if the National Practice Guidelines (AHCPR, 1995) for smoking prevention and cessation were followed. The patient's perspective of this interaction with the provider, in regards to smoking status was also tabulated and the differences among clinics analyzed. Descriptive statistics were used to summarize data on percentages of total population who smoke, age, gender and clinic specialty; and to perform cross tabulations of these variables with the intervention data. Here, data were analyzed to reveal significant provider intervention outcomes and relationships with stated demographic variables.



## IV. ANALYSIS OF DATA

### Introduction

The purpose of this study was to examine clinical practices of military healthcare providers in promoting a smoke free lifestyle, which is considered critical to the maintenance and mobilization of a combat ready armed forces. This chapter presents the data collected on smoking cessation actually offered in three clinics of a military medical center and clients' responses to provider intervention.

### Characteristics of Sample

A retrospective chart review was utilized to examine randomly selected records of clients in a major military medical center; from the OB-GYN, Primary Care and Medicine clinics. The sample includes both male and female clients, active duty and retired military personnel and their dependents.

As reported earlier, approximately 500 charts were reviewed over a span of three weeks. Amazingly, the majority of the first 100 charts reviewed were non-smokers. The search was subsequently expanded to include a larger number of smokers, to see if health care providers were actually practicing, or meeting the guidelines set for smoking cessation by (AHCPR, 1995). Five hundred charts were reviewed for the purpose of this research study. Of the 500 charts reviewed only 10 percent were smokers. The 10 percent of smokers were utilized to examine patient's response to provider intervention. The number of non-smokers identified in this study suggest that the military in principle, appears to be complying with the spirit of a smoke free military environment by year 2000. No further analysis of non-smokers was deemed necessary since the purpose of this study was to obtain data to evaluate the adequacy of steps taken by health care

providers to encourage their smoking clients to quit. Thus, for the purpose of the research, one hundred charts were purposively selected of which half were smokers and half non-smokers.

The sampled smokers charts were examined to see if healthcare providers in the military routinely and as a matter of policy encouraged and offered assistance for smoking cessation to their clients. All sampled clients who smoked were then interviewed via telephone within 48 hours of their chart review. Follow up calls were also made for those who could not be reached during initial attempts to interview them.

The age of the smokers ranged from 18-76 years, with an average of 43 years. Fourteen subjects were from the OB-GYN clinic, 20 subjects were from the medicine clinic, and 19 subjects were from the primary care clinic. Males composed 42 percent whereas females composed 58 percent of the population for a sum total of 100 percent or 53 subjects who smoked (see Table 1).

Table 1.

Age and Gender of Smokers by Clinic

	OB-GYN	Medicine	Primary Care	Total	Percent
<b>Age</b>					
<b>Total</b>	<u>14</u>	<u>20</u>	<u>19</u>	<u>53</u>	<u>100</u>
18 - 30	7	5	2	14	26
31 - 50	6	5	8	19	36
51 and over	1	10	9	20	38
<b>Gender</b>					
<b>Total</b>	<u>14</u>	<u>20</u>	<u>19</u>	<u>53</u>	<u>100</u>
Male	0	10	12	22	42
Female	14	10	7	31	58

## Research Questions

Research Question #1

Table 2.

Number of Times Provider Offered Smoking Cessation by Clinic

	OB-GYN	Medicine	Primary Care	Total	Percent
<b>Patient</b> Smoking Status determined?	14	20	19	53	100
<b>Provider Intervention</b> Advice offered	5	2	5	12	22
Class offered	4	3	3	10	18

Research Question #2

Table 3.

Number of Client Responses per Telephone Call Versus Chart Documentation

	OB-GYN	Medicine	Primary Care	Total	Percent
<b>Client Response</b> Status identified	14	19	17	50	100
Advised to stop	14	16	15	45	90
Class offered	4	3	3	10	20

Clients interviewed via telephone were generally receptive to the interview. They answered questions freely and without hesitation. Attempts were made to contact all of the 53 clients identified as smokers in the study. Fifty subjects were actually interviewed. Of these 50 contacted, 45 or 90% remembered talking with their healthcare provider or receiving counseling about smoking cessation. Their answers generally concurred with the documented intervention of the healthcare provider, based on the chart review. Five subjects denied having any recollection of counseling, or other smoking

cessation intervention plans by the provider. Three subjects who were part of the chart review could not be reached for interview.

### Research Question #3

The study did not reveal statistically significant differences in clinic approach or methodology of smoking cessation intervention in the population sampled. According to records reviewed all providers inquired about the patient's smoking status at the initial point of contact. However, fewer than half of the providers actually acted on this information. Only 45% of charts contained providers' documentation of intent to provide a smoking cessation intervention or additional referral service and follow-up care to meet clients unique needs (see Table 4).

Table 4.

### Percent of Times Smoking Cessation Encouragement was Documented in Charts, by Clinic

Clinic	Documented	Not Documented	Total	Percent Documented
OB-GYN	10	4	14	71
Medicine	5	15	20	25
Primary Care	9	10	19	47
Total	24	29	53	45

A clinic by clinic comparison of cessation encouragement efforts by OB-GYN, Primary Care, and Medicine clinic providers, showed that documentation and interventions occurred with higher frequency in the OB-GYN and Primary Care clinics, and less often in the Medicine clinic (see Table 4). The variation in these numbers may be related to the uniqueness or emphasis of care provided in each of these clinics. For example the apparent heightened concern of care for the unborn child could be a reason

that the OB-GYN clinic seem to intervene with smoking cessation on a more regular basis. Similarly the nature and clientele of the primary care clinic may also have necessitated the increased number of interventions as opposed to the medicine clinic, whose immediate concern for care may be quite different at this initial point of contact with the health care system.

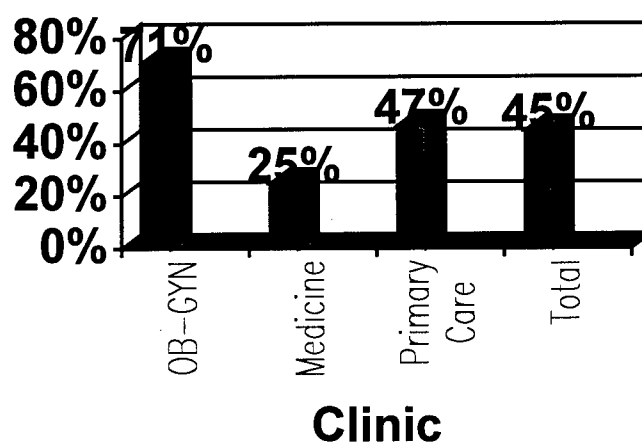


Figure 1.

#### Percent of Time Cessation Encouragement Documented in Charts by Clinic

##### Summary

Pertinent characteristics of this investigation included provider intervention and clinic type. Variables included age, gender, patient smoking status and client response. Data suggested that patient smoking status at the initial point of contact was determined 100 percent of the time. However, follow up care at the clinical levels appeared to fall somewhat short of 100 percent. The following chapter will discuss these findings and give recommendations and suggestions for improvement of the process, and finally conclusions of the study will be discussed.

## V. DISCUSSION

### Introduction

The researcher's interest in this topic was derived primarily from the mounting evidence from the scientific community, that tobacco is proven to be carcinogenic and has a devastating effect on the general health and welfare of our population. The ongoing general debate on this issue, political wrangling and recent successful legal challenges brought against the tobacco companies by attorneys general of several states in the nation, highlights the importance of this issue and the need for urgent action by every one concerned. As health care providers, in the military, it is imperative that we join in the debate and be part of the process of finding a lasting solution to the problem. This study attempted to look at actual practice relative to the policies in place and the guidelines set forth by the Department of Defense (DoD) that mandate military providers to specifically and adequately address tobacco status, and implement smoke cessation programs as needed when clients access the health care system. The goal is to ensure adherence to these guidelines, and to make recommendations for better and improved health care delivery to our clients where necessary.

The study was done retrospectively through chart review and interviews, to examine clinical practices of military health care providers in screening and promoting a tobacco free lifestyle in the organization. A tool was developed to evaluate various interactive activities between a health care provider and client in a military health institution. The tool measured types of provider interventions given when a client was identified as a smoker. A summary of the findings, conclusions, implications and recommendations for future studies/actions are presented in this chapter.

According to Air Force Instruction (AFI 40-1-2, 1994), "health care providers will inquire about the members smoking history during routine physical or dental examinations and at other appropriate clinical visits" (p. 3). Air Force wide, installation health promotion programs are being incorporated to provide educational programs to discourage smoking.

Additionally, a Tri-Service Health Promotion Program Evaluation committee was tasked by the Department of Health and Human Services, to adopt and prioritize health status indicators from Healthy People 2000. Those related to tobacco included increasing to "at least 75% the proportion of primary care and oral health care providers who routinely advise smoking cessation, to provide assistance and follow-up for all of their tobacco using patients" (Air Force Regulation [AFR 30-53], 1992, p. 2).

### Summary

Literature review for this study revealed that the dangers of cigarette smoking are widely being publicized. Liggett, a major cigarette maker, admitted that tobacco is addictive and can cause cancer (Broder, 1997). This shows that there is increasing consensus that the debate is no longer whether tobacco is addictive or injurious to health, but rather, what to do about it. This study revealed a variety of policies, issues, perspectives, and smoking cessation and prevention initiatives were in place by the DoD, in partnership with the health care system, thereby making preventive health services a primary focus for the military and their dependents. There was ample evidence everywhere in literature, mass media and political debates, that a battle line has been drawn between the tobacco industry and policy makers. The tobacco industry contends that smoking is legal and they, therefore, have the right to manufacture and distribute the

products; whereas, policy makers believe that cigarette smoking is injurious to health and should be controlled. Also revealed in the literature is that even though providers are attempting to meet their patients' needs, the follow up leaves much to be desired and many patients' needs seem to be inadequately met because of lack of intense or complete follow up.

This research study was not intended to generate new theories or present fresh claims for, or against cigarette smoking. It did however, serve to remind health care providers in the military and their dependents, to follow already established guidelines and protocols, to ensure that any one coming in contact with the military health care system has an opportunity to be screened and offered assistance for smoking cessation if they so desire.

It also serves as a reminder to the body of knowledge and scientific data available linking morbidity and mortality of both smokers and non-smokers to tobacco. Hopefully it will serve as an incentive for medical personnel to set good examples by not smoking; and taking active roles in promoting or offering smoking cessation classes.

The concern of primary health care providers in this regard is the potential for making a significant impact. This potential cannot be over emphasized. Providers in primary care have tremendous opportunities to make significant contributions toward stemming the tide of morbidity and mortality directly related to cigarette smoking within the armed forces.

### Conclusions

In the course of this study the research revealed that the day of reckoning is finally here for both the tobacco industry, and consumers of tobacco products. It was also



clear from reviewing the literature, and observing the public debate on tobacco related issues and policies, that serious discussions and possible solutions about the negative impact of tobacco on the health and economy of our nation has finally begun in earnest.

A concerted effort by the USDHHS in the fight against smoking has been significant and remarkable. According to C. Everett Koop, "Since the first Surgeon General's report on the health consequences of smoking was issued in 1964, an overwhelming body of evidence—more than 50,000 studies from dozens of countries—has established that smoking is the largest preventable cause of premature death and disability in the United States" (McIlvain, Crabtree, Gilbert, Havranek, & Backer, 1997). In these studies and public pronouncements, recognition of the unique roles of the medical professionals in this public health effort are often amplified. A common theme in these studies and the subsequent public campaign was that specialists are vital resources in smoking cessation efforts, not only through their important contributions to cessation research, but also through their critical role in service delivery, especially in intensive cessation interventions.

It seems to the researcher that never has a preventive health care issue been so important and hotly debated or promoted as intensely as in the case of tobacco use or its cessation. In a massive health promotion effort tobacco cessation counseling on a regular basis is recommended for all persons who use tobacco products. There are indications that pregnant women and parents with children living at the home are also counseled on the potentially harmful effects of smoking on the unborn children. Television ads, public policy announcements and other media advertising disseminate anti-tobacco messages in an effort to market nicotine patches, gums or other smoking cessation products. The

implication of all this, is that the public and the private sector alike have given tobacco smoking all the attention it can handle.

There is also increasing evidence that clinical specialist are constantly researching and designing effective methods for smoking cessation intervention and treatment.

The American Academy of Family Physicians and other professional health care groups believe that effective smoking cessation counseling would result in more abstinence and higher quit rates. This source claimed that initial research showed that professional intervention/advice predictably had positive effects on patients smoking status, and more recent investigations are focusing on developing effective training programs for physicians, their assistants, and nurse practitioners (McIlvain, et al., 1995 p. 148).

Therefore there is a clear indication that the health care professionals fully recognize not only the staggering costs in disease and death brought about by tobacco use, but also the need to train its staff in effective tobacco cessation intervention techniques.

Within the military, there is as well abundant evidence that a war on tobacco is being fought. In the U.S. Navy for example, tobacco use prevention and smoking cessation programs are intense and aggressive. A representative sample study of 406 U.S. Navy commands, including all medical treatment facilities, in 1990 revealed that the vast majority of Navy commands (86%) provided some type of tobacco cessation education materials or programs. Survey respondents estimated that approximately one third of those persons who attended such a program stopped their tobacco use as a result of the program (Conway, et al., 1993).

Similarly, by the order of the Secretary of the Air Force, health promotion procedures are in place to control tobacco use in the Air Force occupied buildings, facilities, vehicles and aircraft. Every indication therefore, is that at least in principle, all branches of the military are in compliance with DoD Directive 1010.15 (1986) and Air Force Instruction 40-102 (1994).

While tobacco use continues to be a public health concern and challenge for the nation at large, the military seems to view the issue with greater sense of urgency due to health and physical demands of its roles. Department of Defense WWS (1995) highlighted trends in cigarette use, service comparisons of smoking, and even demographic correlates of cigarette use in the Defense Department in an attempt to design effective cessation programs and treatments.

Despite all the efforts by the various groups and interests discussed in this study to control tobacco usage and implement cessation programs, it is also apparent from data collected and analyzed that interventions and follow up care at the clinical levels may be inadequate. As shown in Table 2. in the comparative analysis of documented client smoking status, and provider intervention, relatively few clients who smoked had documented provider interventions to stop smoking. In all categories there seem to be abysmally low evidence of direct or indirect follow up assistance from health care providers. The findings suggest that more work is desperately needed in this area if substantial progress in the war against smoking is expected. But judging from the client telephone response, providers appear to be fulfilling their role in relation to patient awareness of smoking cessation. Out of 50 subjects who were interviewed 45 remembered talking with their health care provider or receiving counseling about

smoking cessation. This is an indication that the providers do talk to their patients regarding smoking cessation. However, the provider documentation of this counseling appears to need some improvement.

### Recommendations

As a result of the study and conclusions, several recommendations can be made at this point. A replication study in several other military healthcare centers may be necessary to validate findings in this study. The current study found that out of 500 charts reviewed only 10% were classified as smokers. Future research could corroborate or clarify this finding. Additional relevant information may be obtained if the scope of the study was expanded and analysis of tobacco related clinical interventions in the military was explored in greater depth. In other words this study did not examine individual providers, such as the intervention that nurse practitioners perform as opposed to the interventions of physician assistants or physicians. It is possible that one type of provider intervenes more readily than others in regards to smoking cessation intervention.

Medical treatment facilities that offer smoking cessation classes among other things should be established for all branches of the service. In addition to discussing and implementing a smoke free military work place, coordinated adequate training and supply of health care counselors must be guaranteed at all times. The number and skills of primary care and oral health care providers who routinely advise cessation, provide assistance and follow-up for all tobacco using patients must be reflected in the number of cases or the assignments of personnel. Further studies could reveal if inadequate staffing was part of the problem of lack of documentation of follow-up with counseling and treatment for clients identified as smokers. The use of a variety of clinical specialist

should be considered. Multiple types of clinicians should participate in intensive smoking cessation programs. In concurrence with American Family Physician position on this issue, new specialists may be trained in counseling strategies for providing consultation for difficult cases, and providing specialized assessment services (AHCPR 1995). New specialist personnel also should be able to gather data for evaluation, to determine the effectiveness of ongoing smoking cessation activities in military hospitals. They should, under supervision, implement or follow through with innovative treatment strategies on behalf of primary care professionals. Implementation of these strategies will hopefully translate into efficient and cost effective delivery of smoking cessation services.

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## **APPENDICES**

### **APPENDIX A**

INTERVENTION PLAN  
DOCUMENTATION CHECKLIST

Checklist of patient's health care plan documentation, recommended by the National Practice Guidelines for smoking prevention and cessation.

Client Age: \_\_\_\_\_ Gender: male \_\_\_\_\_ female \_\_\_\_\_

Clinic Type:

OB-GYN Clinic \_\_\_\_\_ Medicine Clinic \_\_\_\_\_ Primary Care Clinic \_\_\_\_\_

1. Primary Screening:

a. Was patient's smoking status determined: \_\_\_\_\_ Yes \_\_\_\_\_ No

b. Did the patient smoke? \_\_\_\_\_ Yes \_\_\_\_\_ No

2. Documented advice given to encourage smoking cessation:

\_\_\_\_\_ Yes \_\_\_\_\_ No

3. Documented assistance given to those who wanted to stop:

\_\_\_\_\_ Yes \_\_\_\_\_ No

Smoking Cessation Class

\_\_\_\_\_ Yes \_\_\_\_\_ No

4. Type of assistance documented:

a. Pamphlets

\_\_\_\_\_ Yes \_\_\_\_\_ No

b. Quit date

\_\_\_\_\_ Yes \_\_\_\_\_ No

c. Nicotine Therapy

\_\_\_\_\_ Yes \_\_\_\_\_ No

### Telephone Script

Hello, my name is Captain Udensi. I am surveying clients who were recently seen by a provider at Andrews AFB Medical Center. I would like to know if you were asked about your smoking status?

If yes, and if a smoker, client will be asked questions 2-4 in Appendix A.

## **APPENDIX C**

### **IRB Approval/Consent Form**



UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES

4301 JONES BRIDGE ROAD  
BETHESDA, MARYLAND 20814-4799



September 8, 1997

MEMORANDUM FOR CAPT CHERYL A. UDENSI, GRADUATE SCHOOL OF NURSING

SUBJECT: IRB Approval of Protocol **T06142-01** for Human Subject Use

Your research protocol entitled "*Smoking Cessation Prevention in the Air Force: How Adequate,*" was reviewed and approved for execution on 8/28/97 as an exempt human subject use study under the provisions of 32 CFR 219.101(b)(2).

This retrospective study will examine past clinical practices of military healthcare providers in screening and promoting a tobacco-free lifestyle. Subjects will be interviewed by telephone using an instrument developed by the researcher. No sensitive information is being requested. This study requires approval from the local Institutional Review Board at Andrews AFB before starting.

Please notify this office of any amendments you wish to propose and of any unexpected incidents regarding the protection of human subjects which may occur in the conduct of this project. If you have any questions regarding human volunteers, please call me at 301-295-3303.

Michael J. McCreery, Ph.D.  
LTC, MS, USA  
Director, Research Programs and  
Executive Secretary, IRB

cc: Director, Grants Administration




MEMORANDUM FOR CAPT UDENSI

FROM: 89 MDG/SGI

SUBJ: Approval of Protocol, "Smoking Cessation/Prevention in the Air Force: How Adequate"

The changes in your protocol have been reviewed, and your protocol has been approved. You may begin your study. Please provide this office with all required reports.



MAURICE ROBINSON, MSgt, USAF  
Superintendent, Medical Education